



**Massachusetts Bay  
Transportation Authority**

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**MBTA Contract No. Q09CN01**

**Red Line and Orange Line Signals Systems Upgrades**

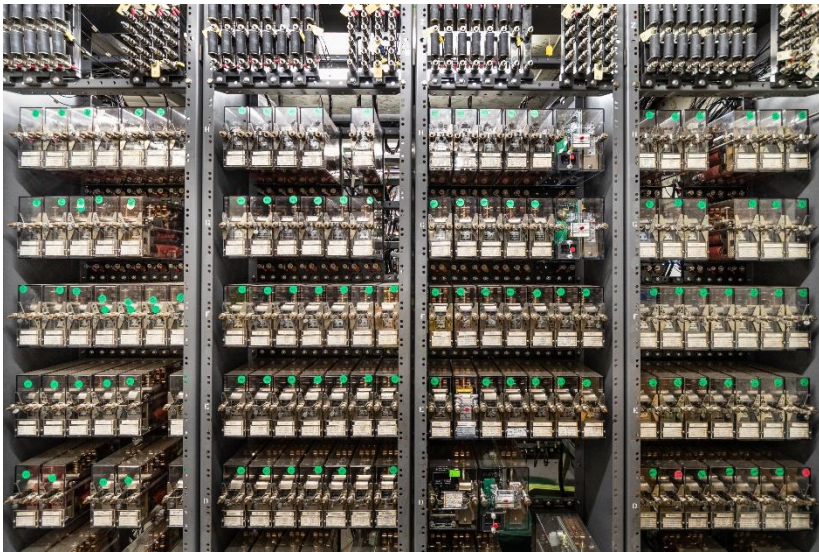
**Red Line / Orange Line Improvements Program**

**October 1, 2018**



## OVERVIEW

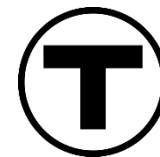
Today's Board action will allow for the upgrade of train control systems for both the Red and Orange Line as part of the Red Line/Orange Line Improvements Program. Once complete, this project is anticipated to substantially improve reliability along both lines and advance the programs' headway goals.





## Budget and Construction NTP Dates

Red Line & Orange Line Infrastructure Improvement Projects (Cost in Millions)		Anticipated/Actual Construction NTP
<b>Infrastructure Program</b>		
Orange Line Test Track	\$7.80 M	✓ Jun. 2017
Wellington Yard Expansion - Tracks 33 to 38	\$22.37 M	✓ Dec. 2016
Wellington Maintenance Facility	\$86.89 M	✓ Jun. 2017
Wellington Yard Rebuild & Signal Upgrades	\$148.92 M	✓ May. 2018
Red Line Test Track	\$25.40 M	✓ Nov. 2017
Cabot Yard & Maintenance Facility Improvements	\$290.52 M	✓ Aug. 2018
Signal Systems RL Enhancements	\$3.40 M	✓ Dec. 2017
RL/OL Program Level (PM/CM, OR & Project Admin.)	\$71.34 M	
Unallocated Contingency	\$48.76 M	
<b>Subtotal</b>	<b>\$705.40 M</b>	
<b>Signals Program</b>		
Orange Line Signaling and Train Control Systems Upgrade	\$75.07 M	✓ Oct. 2018
Southwest Corridor Wayside Signal Replacement	\$37.51 M	✓ Oct. 2018
Red Line Signaling and Train Control Systems Upgrade	\$80.04 M	✓ Oct. 2018
Columbia Junction Phase II	\$32.20M	✓ Oct. 2018
RL/OL Program Level (PM/CM, OR & Project Admin.)	\$36.74 M	
Unallocated Contingency	\$6.07 M	
<b>Subtotal</b>	<b>\$267.63M</b>	
<b>Total</b>	<b>\$973.03M</b>	



## Project Overview





## Project Scope

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The project is to upgrade the Red Line and Orange Line signaling systems which will improve system reliability and service.

Work includes design and construction for:

- Re-signaling the Red Line and Orange Line with the next generation Digital Audio Frequency Track Circuits. The track circuits will be designed with the capacity to add additional speed commands to take advantage of the improved vehicle performance technology of the new fleets.
- Columbia Junction Phase 2 will replace the existing central instrument houses (CIH) with the latest generation of train control equipment to interface with the wayside equipment. The scope also includes the addition of a bungalow at Tenean Beach. Lastly the existing electric lock crossover at Andrew Station will be converted to a remote controlled crossover with a full complement of signaling equipment for powered switches.
- The Southwest Corridor Equipment Replacement consists of the replacement-in-kind of all cabling, switch machines, and signals.



## Design Build Procurement

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- The Engineer's Estimate was \$188,855,442.
  - Request for Letters of Intent were issued on September 8, 2017 and Request for Qualifications were issued on October 2, 2017.
  - Three respondents submitted Statements of Qualifications which were evaluated by the Selection Committee and two respondents, MEC-J.F. White, a Joint Venture and Barletta Heavy Division, Inc., were shortlisted.
  - Request for Proposals were issued on February 12, 2018. Two proposals consisting of separately sealed Technical Proposals and Price Proposals were received on August 20, 2018.
  - The Technical Proposals were reviewed and a Technical Proposal Score for each Proposal was determined by the Selection Committee.
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## Design Build Procurement

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- On September 20, 2018 a public Price Proposal opening was held to determine the successful proposer utilizing the following formula:
- Overall Value Rating = Lump Sum Amount ÷ Technical Proposal Score
- The following is a summary of the results.

Proposer	Lump Sum Price	Technical Proposal Score	Allowances	Contract Price	Overall Value Rating
Barletta Heavy Division, Inc.	\$179,663,106	746.5	\$38,013,894	\$217,677,000	240,674
MEC – J.F. White, A Joint Venture	\$227,277,613	819.8	\$38,013,894	\$265,291,507	277,235



## **Request of the Fiscal and Management Control Board**

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Staff request that the Fiscal and Management Control Board authorize the MBTA General Manager and CEO, or his designee, to execute MBTA Contract Q09CN01: Red Line and Orange Line Signals Systems Upgrades for the Red Line / Orange Line Improvements Program with Barletta Heavy Division, Inc. for an amount not to exceed \$217,677,000.